

**RECEIVED  
CENTRAL FAX CENTER****FEB 17 2006****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Alberth, Jr. et al. )  
)  
For: Method and Apparatus for Storing a )  
Message for Playback during a User- )  
Initiated Emergency Telephone Call )  
from a Wireless Device )  
)  
Serial No.: 09/610,768 )  
)  
Filed: July 6, 2000 )  
)  
Examiner: Tran, T. )  
)  
Art Unit: 2684 )

**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being  
facsimile transmitted to the United States Patent and  
Trademark Office, Fax No. (571) 273-8300 on  
February 17, 2006.

*Tamara Oly*

*February 17, 2006*  
(Date)

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attention: Board of Patent Appeals and Interferences

**NOTICE OF APPEAL, and TRANSMITTAL OF APPEAL BRIEF**

In accordance with 37 CFR §41.31, applicants hereby appeal to the Board of  
Patent Appeals and Interferences from the last decision of the Examiner.

More specifically, the Notice of Appeal and enclosed brief is being filed in  
response to an Office Action, dated November 17, 2005, in which the Examiner reopened  
prosecution for purposes of citing new grounds for rejection. The present filing date of February  
17, 2005, for filing the Notice of Appeal is within the permissible three month term for filing a  
response to the Office Action, and in effect provides for the re-instatement of the appeal, via the

filing of a new Notice of Appeal, while the enclosed Brief addresses the new grounds for rejection raised by the Examiner without amending any of the claims.

✓ In connection with filing the Notice of Appeal (\$500), and the Appeal brief (\$500), (no fee is believed to be due.) Under the present circumstances, the applicant is entitled to apply the previously paid fees associated with the two previous notices of appeal, in accordance with MPEP §§ 1204.01 and 1207.04, as neither appeal was considered by the board on the merits (i.e. the Examiner re-opened prosecution prior to a decision on the merits). There has been no increase in the appeal fees including the fees associated with filing a Notice of Appeal or an Appeal Brief between the filing of the present Notice of Appeal, and Appeal Brief; and the Notice of Appeal, and Appeal Brief, filed August 23, 2005, consequently the previously paid Fees in support of all previously filed Notices of Appeal and all previously filed Appeal Briefs, are sufficient for supporting the present filing.

However in the event the applicants are mistaken and one or more fees are in fact due in connection with the present Notice of Appeal, and corresponding Appeal Brief being filed herewith, the applicants' representative authorizes the Commissioner to charge any such fee including any fee required to cover any deficiency associated with any underpayment, or to credit any overpayment to Deposit Account No. 50-2117, of Motorola, Inc.

Respectfully submitted,

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Attention: Board of Patent Appeals and Interferences

**APPELLANTS' BRIEF**

This brief is being filed in conjunction with a NOTICE OF APPEAL filed herewith.

Any fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying NOTICE OF APPEAL AND TRANSMITTAL OF APPEAL BRIEF.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)):

- I REAL PARTY IN INTEREST
- II RELATED APPEALS AND INTERFERENCES

- III STATUS OF CLAIMS
- IV STATUS OF AMENDMENTS
- V SUMMARY OF CLAIMED SUBJECT MATTER
- VI GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL
- VII ARGUMENT
  - A. Rejections under 35 U.S.C. 103
- VIII CLAIMS APPENDIX
- IX EVIDENCE APPENDIX
  - A. Computer generated English translation of Tanaka, (JP Patent Publication No. 08-251313)
- X RELATED PROCEEDINGS APPENDIX (not applicable)

#### **I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is Motorola, Inc., a Delaware corporation.

#### **II. RELATED APPEALS AND INTERFERENCES**

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences.

#### **III. STATUS OF CLAIMS**

##### **A. Status of all claims in the proceeding**

- 1. Claims rejected: 1, 2, 4, 11-13, 26, 28 and 29
- 2. Claims allowed: 5-10, 14-24, 27 and 30
- 3. Claims withdrawn from consideration but not canceled: none
- 4. Claims objected to: none
- 5. Claims canceled: 3 and 25

**B. Identification of claims being appealed**

The claims on appeal are: 1, 2, 4, 11-13, 26, 28 and 29

**IV. STATUS OF ANY AMENDMENTS AFTER FINAL**

No amendments have been filed after final.

**V. SUMMARY OF INVENTION**

The invention pertains to a wireless device, and a method for sending a message stored in the memory of the wireless device. The claimed device and method has particular relevance to emergency messages being transmitted during emergency situations, such as user initiated emergency calls (page 1, lines 2-5).

In at least one instance, when a call associated with sending a message is initiated by the user, a timer is initiated, which delays sending the message until a predetermined time has elapsed as detected by the timer (page 8, lines 12-19). This allows for a period of time, which exists before the message is sent, in which the anticipated delivery of the message can be avoided (page 2, lines 23-27). In the same or alternative instances, once the call associated with transmitting a message has been initiated, the actual sending of the message can be avoided or interrupted when an audio signal, such as the user's voice, is detected from an external source, such as via the microphone of the wireless device (page 2, lines 28-32; page 8, lines 19-22). Still further in the same or other instances, the detection of the activation of a key can also be used to interrupt or terminate the sending of the stored message (page 9, lines 3-6).

Where the message is a data message, which includes emergency information, the message can additionally include a digital signature (page 11, line 35 to page 12, line 1).

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 1, 2, 13, 26 and 29 have been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Balachandran (US Patent No. 6,073,004).

2. Whether claim 28 has been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Balachandran (US Patent No. 6,073,004), and further in view of Tanaka (JP Patent Publication No. 08-251313).

3. Whether claims 4 and 12 have been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Tanaka (JP Patent Publication No. 08-251313).

4. Whether claim 11 has been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Ebata et al. (US Patent No. 6,487,542).

## VII. ARGUMENTS

### A. Rejections under 35 U.S.C. 103

The Examiner has rejected claims 1, 2, 4, 11-13, 26, 28 and 29 under 35 U.S.C 103(a) as being unpatentable over Alpert, '666, in view of one or more of balachandran, '004, Tanaka, '313, and Ebata et al., '542. However, in each instance, the rejection has been misapplied. The specific reasoning outlining the misapplication of the rejections are noted below.

The Federal Circuit has repeatedly emphasized that, with respect to obviousness, the standard for patentability is the statutory standard. The inquiry is whether the claimed subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. In this regard, see for example, Monarch Knitting Machinery Corp. v. Saulzer Maurat GMBH, 139 F.3d 877, 881, 45 USPQ2d 1977, 1981 (Fed. Cir. 1998).

For purposes of formulating an obviousness type rejection, the Patent and Trademark Office (PTO) has the initial burden of presenting a prima facie case. In re Mayne, 104 F.3d 1339, 1341, 41 USPQ2d 1451 (Fed. Cir. 1997). In order to establish a prima facie case of obviousness, it must be shown that the prior art reference, or references when combined, teach or suggest all of the claim limitations. Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996), In re Royka, 490 F.2d 981, 180 USPQ 580, 583 (CCPA 1974). Furthermore, the showing of a suggestion, teaching, or motivation to combine

prior teachings "must be clear and particular." In re Dembiczak, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). These requirements are consistent with the Patent and Trademark Office's own examination guidelines governing the formation of obvious type rejections, see MPEP §2142.

1. Whether claims 1, 2, 13, 26 and 29 have been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Balachandran (US Patent No. 6,073,004).

In attempting to reject claims, the Examiner correctly acknowledges that minimally Alpert, '666, fails to teach or suggest initiating a timer when the call is established, and sending a stored message from a wireless device when a predetermined time has elapsed on the timer. However, contrary to the Examiner's assertions the teachings of Balachandran, '004, fails to account for the above noted deficiencies, either alone or when taken together with Alpert, '666, in so far as Balachandran, '004, similarly minimally fails to make known or obvious sending the stored message when a predetermined time has elapsed on a timer wherein the timer is initiated when the call is established, as provided by the present claims.

Interestingly, even the Examiner's own characterization of the Balachandran, '004, fails to allege the necessary teaching, where the Examiner alternatively contends and/or acknowledges at the bottom of page 2 and the top of page 3 of the Office Action, dated November 17, 2005, that timer 35 is applied to delay a transmission of a stored message before an emergency call is established, as opposed to initiating the timer when the call is established as provided by independent claims 1 and 26. The applicants confirm that the timer discussed in Balachandran, '004, is initiated prior to the establishment of a call, and in fact is used to delay the initiation and establishment of a call in certain circumstances (please see col. 1, lines 45-47). Consequently, Balachandran, '004, cannot be said to make known or obvious the feature for which it is being relied upon as making known or obvious, irrespective of whether it would be obvious to combine the references as suggested.

The application of the rejection relative to dependent claims 2, 13 and 29 is similarly problematic in view of the above noted deficiencies relative to the basic claims upon

which they depend. As a result, the Examiner's rejection of claims 1-2, 13, 26 and 29 (and claim 28 as noted below) can not be reasonably maintained.

2. Whether claim 28 has been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Balachandran (US Patent No. 6,073,004), and further in view of Tanaka (JP Patent Publication No. 08-251313).

Claim 28 is dependent upon claim 26, which as noted above is presently allowable over the references, which are being presently relied upon by the Examiner, and therefore claim 28 is similarly allowable for the same reasons noted above. Furthermore claim 28 provides the further feature of terminating the transmission of a stored message when a voice signal is picked-up by a microphone of the wireless device. While the Examiner acknowledges that neither Alpert, '666, nor Nichols, '525, (Balachandran, '004?) teach or suggest this feature, the Examiner attempts to assert, that Tanaka, '313, makes known the identified feature. However, the Examiner has misconstrued the teachings in attempting to apply the references to the claims of the present application. More specifically, Tanaka, JP 08251313, is directed to the sharing of a transmission line between a voice signal (i.e. packetized voice signal) and a data signal (i.e. Fax signal). However, contrary to the noted claims of the present application, Tanaka, '313, does not terminate the transmission as provided in claim 28, but alternatively suspends the transmission temporarily, such that the transmission of data signal is expected to proceed when the voice signal is no longer present. Such is made clear through a review of a machine generated translation of the reference, which is provided through the Japanese Patent Office web site, a copy of the same is attached to the present brief and is noted in the evidence appendix at the end of the brief. "Terminate" is inconsistent with the teachings of the reference, in so far as the reference expressly provides for the eventual completion of the transmission. Consequently, contrary to the Examiner's assertions, the combination of references as relied upon by the Examiner, either alone or together, fails to teach or suggest each and every feature of the claims, and therefore the Examiner has failed to establish a proper prima facie case for obviousness.



3. Whether claims 4 and 12 have been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Tanaka (JP Patent Publication No. 08-251313).

For the same reasons noted above with respect to claim 28, the teachings of Tanaka, '313, are inconsistent with terminate, as provided in claim 12. Furthermore the suspension as taught by Tanaka, '313, is similarly inconsistent with "not sending", as provided by claim 4, if the audio signals have been detected. By resuming the transmission as taught by Tanaka, '313, after audio signals have been detected, Tanaka, '313, effectively teaches away from claim 4, as Tanaka teaches sending the stored message even after audio signals have been detected. Consequently, contrary to the Examiner's assertions, the teachings and suggestions from the combination of references being relied upon by the Examiner, when taken either alone or together, fail to teach or suggest each and every feature of the claims. Hence, the Examiner has failed to properly reject the claims.

The continued assertion of this rejection is somewhat unusual given the fact that page 6 of the Examiner's most recent Office Action, dated November 17, 2005, appears to suggest that above noted argument had been previously considered and was found to be persuasive in overcoming the rejection. Consequently, it is not clear whether the Examiner meant to reject the corresponding claims, or whether the Examiner meant to present a still further argument, based upon the alleged new grounds. The same confusion appears to be present relative to the below noted rejection of claim 11, where applicants prior reasoning addressing the same were similarly deemed to be persuasive in overcoming the rejection, which has similarly also been maintained.

4. Whether claim 11 has been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert (US Patent No. 5,742,666), in view of Ebata et al. (US Patent No. 6,487,542).

Nevertheless, relative to claim 11, the Examiner has attempted to suggest that Ebata et al., US Patent No. 6,487,542, in combination with Alpert, '666, makes known the inclusion of a digital signature with the data message including emergency information. However, such an

assertion is simply without merit. The Examiner has failed to provide any teaching or suggestion in the references for such a combination, and/or any motivation as to why the same would be obvious in the present context and/or the context of the base reference, namely Alpert, '666, where the additional reference, Ebata et al., '542, generally relates to a digital signature which is obtained by encrypting the data or message with the secret key of the user at the sending terminal for purposes of security (i.e. avoid wire tapping).

In the present context, the digital signature is associated with the data message including emergency information, which in at least some embodiments of the present invention insures the legitimacy and correspondingly in at least some instances potentially enables an event to have a legal effect, which might be important in circumstances involving an at least partially automated response. This can be important, where the triggering of the at least partially automated response might imply an emergency condition in which the user can not otherwise respond, which might make the legally established effect of a digital signature associated with the data message relevant. Alternatively, Ebata et al., is associated with security associated with communications associated with money management. While with respect to money management, one probably does not want third parties to have access to the information contained within the communication, in the case of an emergency, it is likely a person would welcome assistance from any source. The Examiner has made no attempt to reconcile these differences. Because the Examiner has failed to properly establish a proper motivation to incorporate a digital signature, as provided by Ebata et al., '542, in a context consistent with the Alpert, '666, one skilled in the art can not be said to be motivated to combine the same, in a manner which would make known or obvious the corresponding claims of the present invention. Consequently the corresponding rejection should be reversed.

In view of the above analysis, the applicants would assert, that the Examiner has failed to establish that any of the cited references either separately or in combination make known or obvious any of the presently pending claims. The applicants would respectfully request that the Examiner's decision to finally reject the presently pending claims be overturned, and that the claims be permitted to proceed to allowance.

Respectfully submitted,

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**VIII. CLAIMS APPENDIX**

The following is the text of the claims involved in this appeal:

1. A method for sending a message stored in memory associated with the wireless device, comprising:

- a) initiating a call from the wireless device;
- b) initiating a timer when the call is established; and
- c) sending the stored message from the wireless device when a predetermined time has elapsed on the timer.

2. The method of claim 1, further comprising:

- d) sending position data from the wireless device when the call is established.

3. (Canceled)

4. A method of sending a message stored in memory associated with a wireless device, the wireless device including a microphone, the method comprising the steps of:

- a) initiating a call from the wireless device;
- b) monitoring the microphone for audio signals; and
- c) sending the stored message from the wireless device after a call is established if audio signals have not been detected being picked-up by the microphone of the wireless device; and

d) not sending the stored message from the wireless device if audio signals have been detected being picked-up by the microphone of the wireless device.

5. A method of sending a message stored in memory associated with a wireless device, the wireless device including a microphone, the method comprising the steps of:

- a) initiating a call from the wireless device;
- b) monitoring the microphone for audio signals;
- c) sending the stored message from the wireless device after a call is established; and
- d) adding audio signals picked-up by the microphone of the wireless device into the stored message and sending the resultant combined signal.

6. A method of sending a message stored in memory associated with a wireless device, the wireless device including a microphone, the method comprising the steps of:

- a) initiating a call from the wireless device to a base;
- b) sending the stored message from the wireless device to the base after a call is established;
- c) detecting a playback command received from the base, in response to the operator of the base depressing a keypad key; and
- d) resending the stored message from the wireless device responsive to detecting the command received from the base.

7. The method of claim 6, wherein step a) comprises

detecting actuation of a speed-dial key and initiating the call from the wireless device in response to detecting actuation of the speed-dial key.

8. The method of claim 5, and further including the step of storing an audio message picked-up from a microphone of the wireless device in a memory associated with the wireless device after initiating the call.

9. The method of claim 5, further including the step of storing a data message in a memory associated with the wireless device.

10. The method of claim 9, wherein the data message is part of a radio repertoire.

11. A method of sending a message stored in memory associated with a wireless device, the wireless device including a microphone, the method comprising the steps of:

- a) storing a data message including emergency information in the memory, the data message additionally including a digital signature;
- b) initiating an emergency call from the wireless device to a base; and
- c) sending the stored message from the wireless device to the base after the emergency call is established.

12. A method of sending a message stored in memory associated with a wireless device, the wireless device including a microphone, the method comprising the steps of:

- a) initiating a call from the wireless device;
- b) monitoring the microphone for audio signals;
- c) sending the stored message from the wireless device after a call is established; and
- d) terminating sending the stored message when an audio signal is picked-up by a microphone of the wireless device.

13. The method of claim 1, further including terminating sending the stored message when a key of the wireless device is activated.

14. A method for sending a message from a wireless device, including a microphone, the method comprising the steps of:

- a) initiating a call from the wireless device;
- b) storing audio detected by the microphone upon initiating the call in a memory associated with the wireless device; and
- c) upon establishing the call, sending the audio that was stored upon initiating the call.

15. The method of claim 14, further comprising:

- d) sending position data from the wireless device once the call is established.

16. The method of claim 14, wherein step c) comprises the step of:

- d) sending the stored message if voice signals are not detected via the microphone of the wireless device within a predetermined time after the call is established.

17. The method of claim 14, wherein step c) comprises the step of:

d) terminating sending the stored message if audio signals are detected via the microphone of the wireless device.

18. The method of claim 14, wherein step c) comprises the step of:

d) terminating sending the stored message when a key of the wireless device is activated.

19. The method of claim 14, further comprising:

d) resending the stored message from the wireless device when a command is detected on a downlink channel.

20. The method of claim 14, wherein step a) comprises the step of:

d) initiating a call from the wireless device by depressing a speed-dial key.

21. The method of claim 14, wherein step b) comprises the step of:

d) storing the message picked-up from a microphone of the wireless device in a memory associated with the wireless device.

22. The method of claim 14, wherein step b) comprises the step of:

d) if necessary, reallocating the memory to store the message.



23. A wireless device comprising:

a keypad;

a transceiver;

a memory, a message stored in the memory; and

a controller programmed to:

a) initiate a call from the wireless device in response to a predetermined key stroke;

b) transmit the stored message through the transceiver to a base when the call is established; and

c) retransmit the stored message through the transceiver when a playback command is received from a base through the transceiver, in response to an operator of the base depressing a keypad key.

24. The wireless device of claim 23, further comprising:

a geolocation receiver for determining position data for the device; and

the controller further programmed to:

d) transmit the position data through the transceiver when the call is established.

25. (Canceled)

26. A wireless device comprising:

a keypad;

a transceiver;

a memory, a message stored in the memory; and

a controller programmed to:

a) initiate a call from the wireless device in response to a key stroke;

b) initiate a timer when the call is established; and

c) transmit the stored message through the transceiver after a predetermined time has elapsed on the timer from when the call was established.

27. A wireless device comprising:

a keypad;

a transceiver;

a memory, a message stored in the memory; and

a controller programmed to:

a) initiate a call from the wireless device in response to a key stroke;

b) storing audio picked up by a microphone after initiating the call;

c) transmit the stored message through the transceiver to a base when the call is established; and

d) reallocate memory to store the audio picked up by the microphone after initiating the call.

28. The wireless device of claim 26 wherein the controller is further programmed to:

d) terminate transmission of the stored message when a voice signal is picked-up by a microphone of the wireless device.

29. The wireless device of claim 26 wherein the controller is further programmed to:

d) terminate transmission of the stored message when a key of the wireless device is activated.

30. A wireless device comprising:

a keypad;

a transducer;

a transceiver;

a memory, the memory storing a message; and

a controller programmed to:

a) initiate a call from the wireless device in response to a key stroke; and

b) combine the stored message with an audio signal from the transducer and transmit the combined signal simultaneously through the transceiver when the call is established.

**IX. EVIDENCE APPENDIX**

**A. Computer generated English translation of Tanaka, (JP Patent Publication No. 08-251313) is attached hereto, as provided through the Japanese Patent Office (7 pages).**

A

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-251313

(43)Date of publication of application : 27.09.1996

(51)Int.Cl.

H04M 11/06

H04L 12/56

H04N 1/00

(21)Application number : 07-079650

(71)Applicant : NEC CORP

(22)Date of filing : 11.03.1995

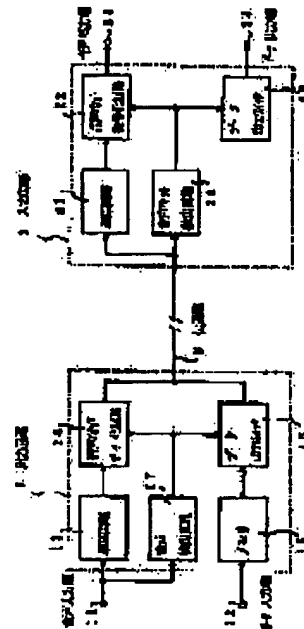
(72)Inventor : TANAKA TOSHIKI

## (54) VOICE/DATA TRANSMITTER

### (57)Abstract:

**PURPOSE:** To obtain the voice/data transmitter in which voice and data are sent through a same channel and the channel efficiency is improved.

**CONSTITUTION:** An output circuit 1 sending a voice signal and a data signal to a transmission line 3 is provided with an output voice detection means 17 detecting the voice signal and an output side data output switch 16 stopping the transmission of the data signal when the output side voice detection means 17 detects the voice signal. Furthermore, an input circuit 2 receiving the voice signal and the data signal to be sent is provided with an input side voice detection means 26 detecting the voice signal and an input side data output switch 25 stopping the reception of the data signal when the input side voice detection means 26 detects the voice signal.



## LEGAL STATUS

[Date of request for examination] 11.03.1995

[Date of sending the examiner's decision of rejection] 13.10.1998

[Kind of final disposal of application other than

Searching PAJ

Page 2 of 2

the examiner's decision of rejection or  
application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against examiner's  
decision of rejection]

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2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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**CLAIMS**

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**[Claim(s)]**

[Claim 1] It connects through a transmission line. The output circuit which can send out a sound signal and a data signal, An output side voice detection means to have the input circuit which can receive the transmitted sound signal and a data signal, and to detect a sound signal in said output circuit, An input sidetone voice detection means to detect the sound signal which was equipped with the output side data output switch made to stop sending out of a data signal when this output side voice detection means detected a sound signal, and has been transmitted to said input circuit, Voice data transmission equipment characterized by having the input-side data output switch made to stop reception of a data signal when this input sidetone voice detection means detects a sound signal.

[Claim 2] The delay circuit which delays the sound signal with which the output circuit was inputted into the voice input edge, The packetized voice data-ized circuit which packetized-voice-data-ization-processes the delayed sound signal, and is sent out to a transmission line, The voice detector which detects said inputted sound signal, and the memory which once memorizes the data signal inputted into the data input edge, It has the data output switch which is beginning to read the data signal memorized by this memory one by one, and is sent out to a transmission line. Said data output switch is constituted so that the actuation may be suspended, when said voice detector detects a sound signal. An input circuit The delay circuit which delays both the sound signal transmitted from the transmission line, and a data signal, The packetized voice decryption circuit which decrypts the delayed packetized voice of a sound signal and is outputted to a voice output edge, It has the packetized voice data detector which detects a packetized voice, and the data output switch which outputs a data signal to a data output edge. Said data output switch is voice data transmission equipment of claim 1 as for which is constituted and the actuation becomes so that may be suspended, when said packetized voice data detector detects a packetized voice.

[Claim 3] Voice data transmission equipment of claim 2 with which a data input edge, memory, and two or more sets of data output switches are formed, and each data output switch operates sequential.

[Claim 4] Claim 1 thru/or 3 voice data transmission equipment which is the sound signal with which the sound signal inputted into a voice input edge was multiplexed.

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[Translation done.]

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the voice data transmission equipment which performed data transmission especially in the voice transmission line using the opening of the circuit at the time of silent, and raised circuit efficiency about the voice data transmission system which enabled transmission of voice and data by the one transmission line.

[0002]

[Description of the Prior Art] In order to aim at a deployment of the voice transmission line, the digital-speech-interpolation method (DSI method) which transmitted only the part in which voice exists is proposed. For example, the opening of the circuit at the time of silent is canceled by transmitting only the pulse signal judged that there is voice in two or more PCM channels to JP,56-34250,A using a DSI channel, and the technique which raised circuit efficiency is proposed. Moreover, in JP,2-181552,A, it judges that a sound signal is [ an owner sound ] silent, and the technique which made it possible to carry out silent oppression, to raise transmission efficiency and to decode correctly by one side by packet-izing a sound signal in the case of an owner sound, and transmitting it to it is proposed.

[0003]

[Problem(s) to be Solved by the Invention] Each such a conventional method aims at improvement in the circuit efficiency in transmission of two or more sound signals. For this reason, when there are few amounts of transmissions of a sound signal (for example, when so few that one circuit is also enough as the amount of transmissions of a sound signal), the effectiveness of improving circuit efficiency is not acquired.

[0004] On the other hand, by the former, although the demand which transmits voice and data by the same circuit is raised with the spread of the telephone in recent years, FAX, etc., since data transmission by FAX cannot be performed at the time of transmission of the sound signal by the telephone and transmission of the voice by the telephone cannot be conversely performed at the time of transmission of the data based on FAX, improvement in the circuit efficiency in such a circuit is desired.

[0005]

[Objects of the Invention] The purpose of this invention enables transmission of voice and data to coincidence in the same circuit, and is to offer the voice data transmission equipment which enabled coincidence use with a telephone, FAX, etc. which were described above, and aimed at improvement in circuit efficiency.

[0006]

[Means for Solving the Problem] The voice data transmission equipment of this invention is connected through a transmission line. The output circuit which can send out a sound signal and a data signal, An output side voice detection means to have the input circuit which can receive the transmitted sound signal and a data signal, and to detect a sound signal in an output circuit, An input sidetone voice detection means to detect the sound signal which was equipped with the output side data output switch made to stop sending out of a data signal when this output side voice detection means detected a sound



signal, and has been transmitted to the input circuit, When this input sidetone voice detection means detects a sound signal, it has the input-side data output switch made to stop reception of a data signal.

[0007] As a concrete configuration of this invention, an output circuit The delay circuit which delays the sound signal inputted into the voice input edge, and the packetized voice data-ized circuit which packetized-voice-data--ization-processes the delayed sound signal, and is sent out to a transmission line, The voice detector which detects said inputted sound signal, and the memory which once memorizes the data signal inputted into the data input edge, It has the data output switch which is beginning to read the data signal memorized by this memory one by one, and is sent out to a transmission line, and when said voice detector detects a sound signal, said data output switch is constituted so that that actuation may be suspended. Moreover, an input circuit is equipped with the delay circuit which delays both the sound signal transmitted from the transmission line, and a data signal, the packetized voice decryption circuit which decrypts the delayed packetized voice of a sound signal and is outputted to a voice output edge, the packetized voice data detector which detects a packetized voice, and the data-output switch which outputs a data signal to a data-output edge, and when said packetized voice data detector detects a packetized voice, said data-output switch is constituted so that the actuation may be suspended.

[0008] Here, a data input edge, memory, and two or more sets of data output switches are formed, and you may constitute so that each data output switch may operate sequential. Moreover, you may be the sound signal with which the sound signal inputted into a voice input edge was multiplexed.

[0009]

[Function] When a sound signal is inputted, a sound signal detection means stops sending out of a data signal by making an output side data output switch into an OFF state. When a sound signal is not inputted, a sound signal detection means sends out a data signal by making an output side data output switch into an ON state. Therefore, while a sound signal does not exist is used effectively by transmitting an simultaneous sound signal only at the time of an owner sound, and transmitting a data signal at the time of silent, transmission of a data signal is enabled, and it becomes possible to raise transmission-line effectiveness.

[0010]

[Example] Next, the example of this invention is explained with reference to a drawing. Drawing 1 is the block diagram of one example of the voice data transmission equipment of this invention, and consists of an output circuit 1 which outputs voice data to a transmission line, and an input circuit 2 which inputs the transmitted voice data. From the voice input edge 11, the sound signal from telephone is inputted as a digitized voice signal, and, as for an output circuit 1, the digital data signal from FAX is inputted from the data input edge 12. It is constituted so that the delay circuit 13 which delays the inputted sound signal, and the packetized voice data circuit 14 which forms this delayed sound signal into packet data may be connected to said voice input edge 11 and the sound signal formed into packet data may be outputted to a transmission line 3.

[0011] Moreover, the memory 15 which memorizes the data signal inputted temporarily, and the data output switch 16 which suspends the output of a data signal in case the data signal memorized by memory 15 is read one by one and it outputs to a transmission line 3 are formed in said data input edge 12. Furthermore, the existence of an input of the sound signal inputted into said voice input edge 12 is detected, and the voice detector 17 which synchronizes and drives said packetized voice data-ized circuit 14 and data output switch 16 is formed.

[0012] On the other hand, the input circuit 2 incorporated the audio packet from each signal of the delay circuit 21 for each signal of voice or data inputted from a transmission line 3 being delayed, and the voice and data which were delayed, performed the decryption, and is equipped with the packetized voice decryption circuit 22 which outputs voice to the voice output edge 23 connected to telephone etc. Moreover, a data signal is incorporated from each signal of the voice and data which were delayed, and in case a data signal is outputted to the data output edge 24 connected to FAX etc., it has the data output switch 25 which suspends the output. Furthermore, the existence of packetized voice data is detected from each signal of the voice and data which are inputted from said transmission line 3, and the packetized voice data detector 26 which synchronizes and drives said packetized voice decryption

circuit 22 and data output switch 25 is formed.

[0013] The transmission actuation of voice and data in the above configuration is explained to drawing 2 with reference to the flow chart which shows a part of the process. For example, suppose that data transmission by FAX is performed now. In this case, in an output circuit 1, the data signal from FAX is inputted into the data input edge 12, and the end storage of this data signal is carried out at memory 15. And at this time, since the voice detector 17 has detected that the sound signal is not inputted into the voice input edge 11, it sets the data output switch 16 as an ON state. Thereby, a data signal is read one by one from memory 15 by actuation of the data output switch 16, and it is sent out to a transmission line 3 as a data packet signal.

[0014] The transmitted data packet signal reaches even the post-data output switch 25 by which only the specified quantity was delayed in the input circuit 2 in the delay circuit 21. Since voice is not transmitted from a transmission line 3 at this time, the data output switch 25 is set as an ON state, a data signal is outputted by actuation of the data output switch 25 from the data output edge 24 by this, and the packetized voice data detector 26 is inputted into FAX.

[0015] Here, if telephone will be in a talk state, since a sound signal is inputted into the voice input edge 11, the voice detector 17 will detect this and will set the data output switch 16 as an OFF state in an output circuit 1. This stops sending out of the data signal from memory 15. And while making the data output switch 16 off, after the sound signal inputted into the voice input edge 11 is delayed in a delay circuit 13, it is packet-ized in the packetized voice data-ized circuit 14, and is sent out to a transmission line 3 as a packetized voice signal.

[0016] After only the specified quantity is delayed in an input circuit 2 in a delay circuit 21, the transmitted packetized voice signal is decrypted in the packetized voice decryption circuit 22, and is sent out to telephone from the voice output edge 23. In order that the packetized voice data detector 26 may detect a packetized voice signal at this time, the data output switch 25 is made into an OFF state, and it suspends outputting a data signal from the data output edge 24.

[0017] And in an output circuit 1, when the sound signal inputted into the voice input edge 11 once breaks off, the voice detector 17 makes the data output switch 16 an ON state in an instant, reads the data signal memorized by the memory 15 by which sending out of a data signal was stopped in the meantime one by one, and sends it out to a transmission line 3 as a data packet signal. Therefore, even if transmission of a data signal stops by the input of a sound signal, since the data signal in the meantime is memorized by memory 15, data are not missing.

[0018] In addition, the delay circuit 13 of an output circuit 1 is for securing the time amount needed for forming a sound signal into packetized voice data, after the voice detector 17 detects voice. Moreover, the delay circuit of an input circuit 2 is for preventing that the output is missing by securing the time amount needed for decrypting packetized voice data, after the packetized voice data detector 26 detects packetized voice data, and turning off the data output switch 25 for the data packet between parentheses.

[0019] The above is an example at the time of performing voice transmission by telephone, when performing data transmission by FAX previously, but same actuation is performed, even when voice transmission by telephone is being performed conversely and it performs data transmission by FAX. That is, in an output circuit 1, the voice detector 17 detects the sound signal always inputted into a voice input edge, and when conversation breaks off also in the midst of a conversation according the data output switch 16 to telephone ON and since off control is carried out, let the data output switch 16 be an ON state. Since the data signal with which the midst of this conversation was also inputted into the data input edge 12 is memorized by memory 15 one by one, when conversation breaks off and the data output switch 16 is made into an ON state, a data signal is immediately read from memory 15, and transmission is performed as a data packet signal.

[0020] Thus, in this example, transmission of the voice by telephone and transmission of the data based on FAX are performed by one circuit, and priority is given to transmission of the voice as which synchronia is moreover required, and even if there is delay, satisfactory data are transmitted between voice transmissions. Thereby, in the former, data transmission becomes possible using the circuit

occupied at the time of audio transmission, and it becomes possible to raise the use effectiveness of a circuit.

[0021] In addition, in the case of the terminal of a computer or others, although the case of transmission of the data based on FAX was explained to be the voice by telephone in said example, as a data terminal, it is applicable similarly. Moreover, as the example of an output circuit is shown in drawing 3, it 12B Prepares and Memory 15A and 15B and the data output switches 16A and 16B are connected to each data input edge, and it is also possible, if the voice detector 17 constitutes these data output switches so that it may turn on sequential and OFF actuation may be carried out two data input edge 12A and to carry out [ two or more ] sequential transmission of two or more data here. Furthermore, it cannot be overemphasized that this invention can be applied also when it is the voice to which Time Division Multiplexing was carried out [ voice / which is inputted into a voice input edge ].

[0022]

[Effect of the Invention] As explained above, a sound signal detection means makes an output side data output switch an ON state, and this invention sends out a data signal, when a sound signal detection means makes an output side data output switch an OFF state, sending out of a data signal is stopped, when a sound signal is inputted into an output circuit, and a sound signal is not inputted. Therefore, while a sound signal does not exist is used effectively by transmitting an simultaneous sound signal only at the time of an owner sound, and transmitting a data signal at the time of silent, transmission of a data signal is enabled, and it becomes possible to raise transmission-line effectiveness.

[0023] Moreover, lack of the sound signal at the time of packetized-voice-data-ization-processing a sound signal and sending out to a transmission line is prevented by establishing the delay circuit which delays a sound signal in an output circuit. Moreover, lack of the data at the time of a data output switch being turned off is prevented by having the memory which memorizes a data signal. Moreover, lack of the sound signal at the time of carrying out the packetized voice decryption of the sound signal and lack of the data signal at the time of a data output switch stopping the output of a data signal can be prevented by establishing the delay circuit which delays a sound signal and a data signal in both input circuits.

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[Translation done.]